

GUADALUPE CHANNEL
FCD GAGE ID# 6603

STATION DESCRIPTION

LOCATION – The gage is located on Guadalupe Road just west of 74th Street in Mesa. The instrumentation is on the north bank of the Guadalupe Road Channel at channel station 35+00 just downstream of the 74th Street bridge. Latitude N 33° 21' 54.8", Longitude W 111° 40' 33.9". Located in the SW1/4 SE1/4 S06 T1S R7E in the Higley 7.5-minute quadrangle.

ESTABLISHMENT – The gage was installed August 7, 1998.

DRAINAGE AREA – Unknown

GAGE – The gage is a Druck pressure transducer. The PT diaphragm is at 0.50 feet gage height, or 1,344.70 feet MSL, from the As-Builts.

There is no staff gage at the gaging location.

There is one crest stage gage at this location. The pin elevation is at 1.00 feet gage height, levels of March 9, 2000.

ZERO GAGE HEIGHT – Zero is defined as the invert of the channel at the center. Elevation is 1,344.20 feet M.S.L.

HISTORY – Gage established August 7, 1998. A crest stage gage was installed on February 23, 2000.

REFERENCE MARKS –

RM 1 is the ground immediately channelward of the PT housing. It is at 0.45 feet gage height, levels of March 9, 2000.

RM 2 is the top of the concrete wall immediately above the PT housing and conduit. It is at an elevation of 8.0 feet gage height, levels of August 17, 1998.

CHANNEL AND CONTROL – The channel is a rectangular channel with concrete bottom and sides. The control for this gage is the channel. HECRAS modeling of the channel indicates just slightly supercritical flow conditions with Froude numbers ranging from 1.0 to about 1.2 through the range of flows. The HECRAS model suggests possible wave development above about 500 cfs (about 2 feet gage height).

RATING – The current rating is Rating #1. The rating was computed from a HEC-RAS model using a combination of the surveyed information from levels of Aug. 17, 1998 and the as-built

data in FCD main flat-files. The survey data basically agreed with the as-builts in this reach. The channel slope is 0.003635 according to the as-builts. The channel is 38 ft wide and the channel centerline is about 0.45 ft lower than the channel toes. The tops of both channel walls in this reach are at about 8.0 feet gage height.

DISCHARGE MEASUREMENTS – Wading measurements could be made for low flows. However, the velocities in the channel may be fast and the footing slippery.

POINT OF ZERO FLOW – The PZF is the invert of the channel at 0.00 feet gage height, levels of March 9, 2000.

FLOODS – A peak discharge of 940 cfs at 2.88 feet gage height occurred on July 23, 2002.

REGULATION – None

DIVERSIONS – None

ACCURACY – Good

JUSTIFICATION – Monitor flows in District's Guadalupe Road Channel and provide information on inflows to the East Maricopa Floodway between the Broadway Road gage and the Queen Creek Road gage.

UPDATE - July 19, 2011
 D E Gardner